**EUROPEAN COMMISSION**
Information Society and Media Directorate General

Lisbon Strategy and Policies for the Information Society
**Lisbon Strategy and i2010**

# Use of Computers and the Internet in Schools in Europe 2006

## Country Brief: United Kingdom

6 / 2006

### Key findings

*All British schools use computers for teaching and have internet access. 75% use the internet via a broadband connection. With this figure the United Kingdom ranks at number 13 of the 27 countries participating in the survey. There is very little variation between school types.*

*However, there is some variation with regard to broadband access between urban and rural areas: 81% of schools in densely populated areas have broadband access compared to 69% of schools in thinly populated areas.*

*A very high 95%, i.e. basically all British schools using computers for teaching use them in classrooms, with the highest percentage being achieved in primary schools (80%). The United Kingdom takes the first position in Europe on this indicator.*

*Computers in the school library are also popular in Britain. Almost 50% of the schools offer them as additional internet access points and for learning purposes with upper secondary and vocational schools exceeding the 80%.*

*A very high 96% of British classroom teachers have used computers in class in the 12 months prior to the survey, with little variation across school types and between urban and rural areas. This is the top score in Europe.*

*British teachers are very frequent and intensive ICT users. A majority (65%) of teachers using computers use them in more than a quarter of their lessons, of which there are 21% using it in more than half of their lessons. Again, this is the top score in Europe.*

*Teachers in vocational schools use computers in class more frequently than their colleagues in general education, with 66% using computers in more than a quarter of their lessons. However their colleagues in general education are not much behind.*

*The older the teachers (indicator used here: years of teaching experience), the less use they make use of computers and the internet in schools. However, ICT usage levels by teachers in class are generally very high in schools in the United Kingdom irrespective of length of teaching experience..*

*Only a very low 4% of teachers do not use computers in class in the United Kingdom. When asked for the most important barrier, 31% state a lack of computers in their schools as the most important barrier. This is almost the lowest figure in Europe. With 20% it is the lowest in all European primary schools.*

*"Lack of equipment in school" is therefore expressed by only 1% of all British teachers (4% non-users multiplied with 31% of teachers agreeing to this item).*

*Most teachers (95%) are convinced of any benefits of using computers in class and only very few (11%) express the opinion that teachers lack the necessary skills to utilize computers in their teaching.*

*ICT competence levels of British teachers are well above the European average. More than two thirds dispose of the necessary ICT skills. Primary school teachers seem to be top in terms of ICT competence since only 25% state that teachers in their school have insufficient ICT skills.*

*Also teachers' "lack of motivation and interest" in ICT reaches a figure well below the European average and does not constitute a problem in the United Kingdom.*

*British schools, and even more so primary schools are very well equipped with ICT, with teachers in almost all schools making very intensive and frequent use of ICT in class, regardless of age of teacher., As well as fully integrating ICT in the teaching of most subjects, and using a multitude of online and offline sources and materials British teachers possess very good ICT skills and are fully aware of the benefits ICT can bring to pupils, and therefore highly motivated to make intensive use of ICT in class.*

*Only in broadband internet access does the British school show a somewhat weaker performance, which could be an area of improvement. But apart from that, no further barriers could be identified. The United Kingdom is the top country in terms of ICT readiness and use of teachers in Europe.*

## ICT Equipment and Internet in Schools

All British schools use computers for teaching and have internet access. 75% use the internet via a broadband connection. With this figure the United Kingdom ranks at number 13 of the 27 countries participating in the survey. There is very little variation between school types.

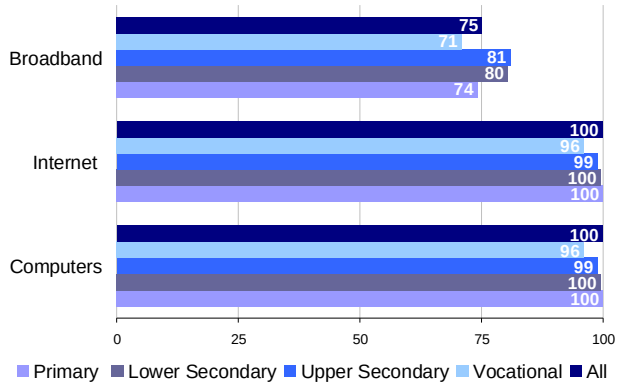
However, there is some variation with regard to broadband access between urban and rural areas: 81% of schools in densely populated areas have broadband access compared to 69% of schools in thinly populated areas.

73% of schools have a website. 85% offer e-mail to teachers, and 41% do so to pupils. Also with respect to the existence of an ICT support and maintenance contract, which is available in 82% of British schools, the UK ranks significantly above the European average on all these indicators.

A very high 95%, i.e. basically all British schools using computers for teaching use them in classrooms, with the highest percentage being achieved in primary schools

(80%). The United Kingdom takes the first position in Europe on this indicator.

### Percentage of Schools Using Computers, Internet Connection, and Broadband Internet Access According to School Type in the United Kingdom 2006




***Source:*** *LearnInd HTS 2006;* ***Base:*** *All schools;* ***Question:*** *Computers: Q6; Internet, Broadband: Q9. See questionnaire for exact wording.*

Computer labs exist in 79% of all British schools, with almost all secondary and vocational schools offering them to their pupils.

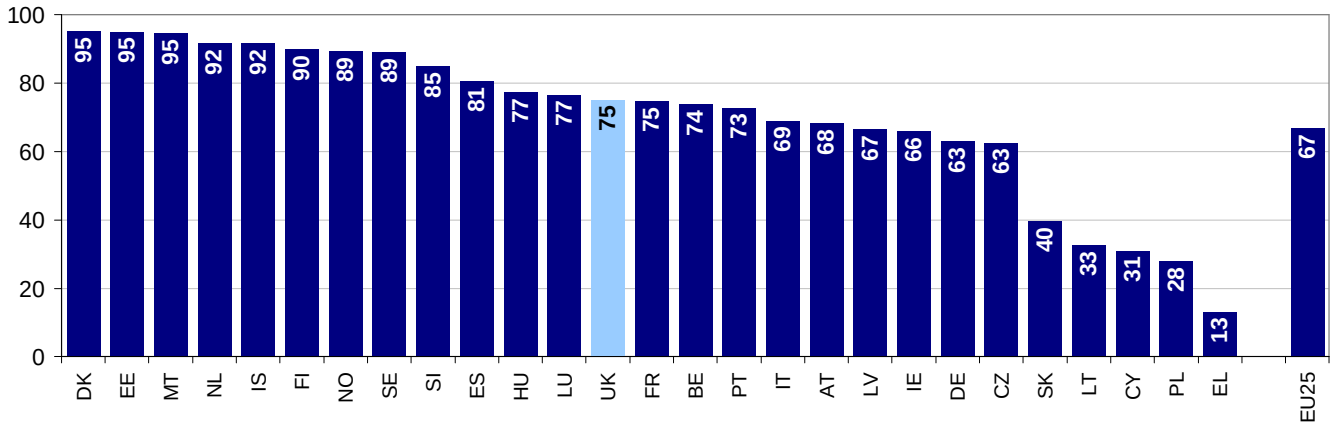
Computers in the school library are also popular in Britain. Almost 50% of the schools offer them as additional internet access points and for learning purposes with upper secondary and vocational schools exceeding the 80%.

Schools with a broadband connection to the internet and those without are rather similar in terms of availability of a school website, the use of a LAN or the availability of an intranet.

## The use of Computers and the Internet in Schools

Computers are used for various purposes and as part of teaching different subjects in schools but also and very widely as a separate subject.

### Percentage of Schools with Broadband Internet Access in Europe 2006




***Source:*** *LearnInd HTS 2006;* ***Base:*** *All schools;* ***Question:*** *Q9. See questionnaire for exact wording.*

### ICT equipment in British schools 2006

| | | | Educational Level (UK) | | | | Type of locality (UK) | | | Internet Access (UK) | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total UK | Total EU25 | Primary | Lower secondary | Upper secondary | Vocational | Densely populated | Inter-mediate | Thinly populated | Narrow-band | Broadband |
| Computers per 100 pupils [a] | 19.8 | 11.3 | 15.9 | 25.0 | 26.4 | *28.5** | 19.1 | 18.3 | 20.8 | 18.3 | 20.3 |
| ... of which internet connected | 18.5 | 9.9 | 14.6 | 23.4 | 24.9 | 28.4 | 17.6 | 17.3 | 19.3 | 16.5 | 19.1 |
| **Percentage of schools having...** | | | | | | | | | | | |
| Computers for teaching [b] | 99.8 | 98.7 | 100.0 | 99.5 | 98.7 | *96.0** | 100.0 | 99.5 | 100.0 | 100.0 | 100.0 |
| Internet access [c] | 99.8 | 96.2 | 100.0 | 99.5 | 98.7 | *96.0** | 100.0 | 99.5 | 100.0 | 100.0 | 100.0 |
| Broadband internet access [d] | 75.1 | 66.9 | 74.1 | 80.4 | 81.0 | *70.9** | 81.4 | 69.7 | 69.2 | 0.0 | 100.0 |
| A website [e] | 73.4 | 63.0 | 71.2 | 86.2 | 87.8 | *87.3** | 77.5 | 72.7 | 67.6 | 68.7 | 75.0 |
| An e-mail address for the majority of teachers [f] | 85.3 | 65.2 | 84.6 | 90.5 | 87.9 | *79.7** | 84.3 | 86.8 | 85.1 | 79.0 | 87.5 |
| An e-mail address for the majority of pupils [g] | 40.5 | 23.5 | 37.1 | 58.0 | 59.6 | *58.7** | 43.2 | 42.0 | 35.1 | 31.3 | 43.6 |
| A LAN [h] | 65.3 | 55.2 | 63.2 | 75.0 | 76.0 | *83.6** | 66.6 | 56.3 | 67.1 | 63.3 | 66.1 |
| An intranet [i] | 63.7 | 40.8 | 61.5 | 72.0 | 74.7 | *71.5** | 65.9 | 62.4 | 60.9 | 65.0 | 63.4 |
| An external support or maintenance contract [j] | 82.3 | 47.1 | 84.6 | 67.3 | 68.7 | *62.8** | 83.3 | 89.9 | 78.3 | 81.6 | 82.7 |
| **Percentage of schools using computers for education in...** | | | | | | | | | | | |
| Computer labs [k] | 79.3 | 80.5 | 75.9 | 98.9 | 99.3 | *95.3** | 86.1 | 88.0 | 65.8 | 75.6 | 80.6 |
| Classrooms [l] | 95.2 | 61.4 | 96.4 | 88.4 | 88.1 | *74.9** | 94.0 | 96.8 | 97.2 | 91.5 | 96.5 |
| School library [m] | 49.4 | 33.4 | 42.9 | 77.9 | 87.6 | *81.6** | 61.2 | 44.0 | 35.1 | 52.4 | 48.3 |
| Other locations accessible for pupils [n] | 31.5 | 27.0 | 29.0 | 47.1 | 46.5 | *49.9** | 34.2 | 29.5 | 27.4 | 26.4 | 33.3 |

***Source:*** *LearnInd HTS 2006;* ***Base:*** *a: all pupils; b-j: all schools, k-n: schools using computers for educational purposes for pupils (cf. index b);* ***Question:*** *a: Q4, Q6, Q7; b: Q6; c: Q9; d: Q9; e-j: Q12; k-n: Q8. See questionnaire for exact wording.* ***Notes:*** *"xx.x*": based on at least 10 and less than 50 cases.*

## Use of computers in class in the United Kingdom 2006

| *Assessments of the head teacher* | | Total UK | Total EU25 | Educational Level (UK) | | | | Type of locality (UK) | | | Internet Access (UK) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Primary | Lower secondary | Upper secondary | Vocational | Densely populated | Inter-mediate | Thinly populated | Narrow-band | Broadband |
| Computer sciences taught as separate subject | Agree | 56.3 | 54.7 | 51.8 | 80.3 | 83.4 | *73.9** | 55.9 | 54.5 | 56.5 | 57.0 | 56.0 |
| | Disagree | 38.1 | 43.7 | 42.2 | 17.1 | 12.6 | *26.1** | 36.9 | 43.1 | 38.4 | 34.3 | 39.4 |
| | Don't know | 5.6 | 1.6 | 6.0 | 2.6 | 4.0 | *0.0** | 7.2 | 2.4 | 5.1 | 8.6 | 4.6 |
| **Computers and the internet are** | | | | | | | | | | | | |
| integrated into teaching of most subjects | Agree | 93.7 | 75.3 | 93.8 | 90.2 | 92.0 | *100.0** | 92.8 | 95.6 | 93.6 | 90.4 | 94.8 |
| | Disagree | 5.6 | 24.1 | 5.3 | 9.2 | 7.3 | *0.0** | 6.3 | 4.4 | 5.5 | 6.6 | 5.2 |
| | Don't know | 0.7 | 0.6 | 0.9 | 0.5 | 0.7 | *0.0** | 0.9 | 0.0 | 0.9 | 3.0 | 0.0 |
| computers and the internet are used for teaching traditional subjects or basic skills | Agree | 90.1 | 75.8 | 91.2 | 83.0 | 81.4 | *95.7** | 91.2 | 86.7 | 90.7 | 89.5 | 90.3 |
| | Disagree | 8.2 | 22.8 | 7.1 | 15.5 | 15.9 | *4.3** | 6.1 | 12.9 | 8.3 | 7.4 | 8.4 |
| | Don't know | 1.8 | 1.4 | 1.7 | 1.5 | 2.7 | *0.0** | 2.8 | 0.5 | 1.0 | 3.1 | 1.3 |
| used for teaching foreign languages | Agree | 45.1 | 56.6 | 38.5 | 86.0 | 85.5 | *87.2** | 46.3 | 39.2 | 44.2 | 44.5 | 45.3 |
| | Disagree | 43.5 | 40.1 | 48.4 | 14.0 | 13.9 | *4.3** | 39.3 | 58.4 | 43.3 | 44.2 | 43.3 |
| | Don't know | 11.4 | 3.3 | 13.1 | 0.0 | 0.6 | *8.5** | 14.4 | 2.4 | 12.6 | 11.4 | 11.4 |
| used for coping with students with special needs/ handicaps | Agree | 95.5 | 71.7 | 95.9 | 92.4 | 91.0 | *91.5** | 95.2 | 97.9 | 95.4 | 92.6 | 96.4 |
| | Disagree | 3.9 | 23.7 | 3.8 | 5.6 | 6.5 | *8.5** | 3.7 | 2.1 | 4.6 | 6.1 | 3.1 |
| | Don't know | 0.6 | 4.6 | 0.4 | 2.0 | 2.6 | *0.0** | 1.1 | 0.0 | 0.0 | 1.3 | 0.4 |

***Source:*** *LearnInd HTS 2006;* ***Base:*** *All schools using computers for educational purposes for pupils;* ***Question:*** *Q13: "To what extent do you agree or disagree with the following statements regarding the educational use of computers and/or the internet in your school?"* ***Notes:*** *"xx.x*": based on at least 10 and less than 50 cases.*

Computer sciences are taught as a separate subject in 56% of British schools, which is around the EU25 average. This is the case in around 50% of primary schools and around 80% of secondary schools with vocational schools in the middle with 74%.

A very high 96% of British classroom teachers had used computers in class in the 12 months prior to the survey, with little variation across school types and between urban and rural areas. This is the top score in Europe.

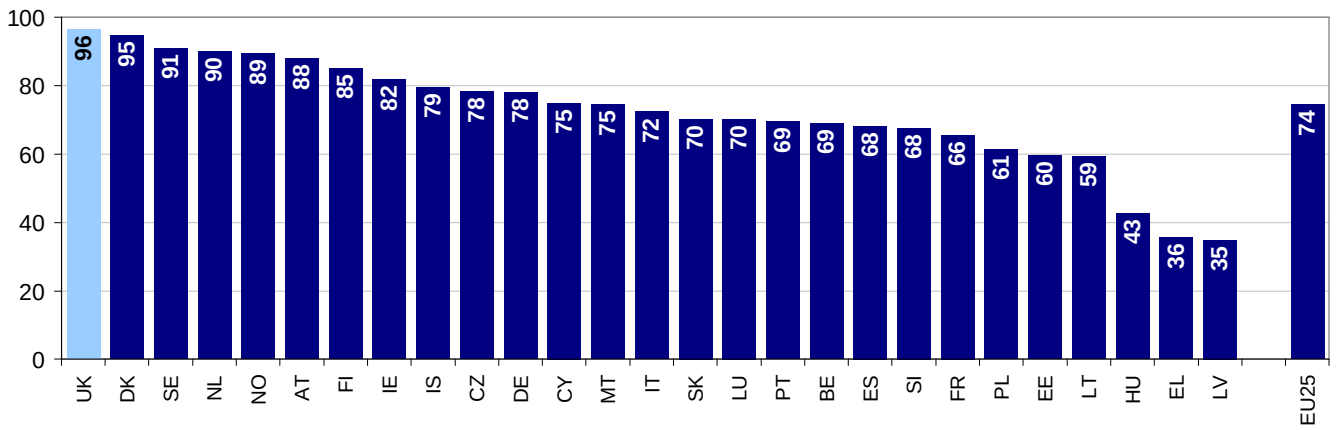
For most teachers, this includes not only using a computer for presentation purposes but also the use of computers by pupils in class to an extent well above the European average.

British teachers are very frequent and intensive ICT users. A majority (65%) of teachers using computers use them in more than a quarter of their lessons, of which there are 21% using it in more than half of their lessons. Again, this is the top score in Europe.

Teachers in vocational schools use computers in class more frequently than their colleagues in general education, with 66% using computers in more than a quarter of their lessons. But their colleagues in general education are not much behind with figures between 56% and 60%. With 56% the ICT use in class in primary school in Britain ranks top in Europe.

British teachers using computers do not restrict themselves to a particular source of information but use a multitude of different material from a variety of sources for teaching purposes which in most categories is much above the European average. They are very active (94%) in searching for material themselves in the internet. This shows a very proactive behaviour and the United Kingdom ranks second on this indicator in Europe.

## Percentage of teachers who have used computers in class in the last 12 months (2006)




***Source:*** *LearnInd CTS 2006;* ***Base:*** *All teachers;* ***Question:*** *Q7. See questionnaire for exact wording*

### Teachers' use of computers in class in the United Kingdom 2006

| Percentage of teachers who ... | Total UK | Total EU25 | Educational Level (UK) | | | | Type of locality (UK) | | | Years of teaching experience (UK) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Primary | Lower secon-dary | Upper secon-dary | Voca-tional | Densely popu-lated | Inter-mediate | Thinly popu-lated | <5 y | 5-9 y | 10-19 y | 20+ y |
| ...have used computers in class[1] | 96.4 | 74.3 | 97.4 | 90.4 | 91.5 | 92.9 | 95.6 | 97.4 | 97.7 | 96.7 | 95.9 | 98.3 | 95.2 |
| ...use a computer in class to present or demonstrate | 89.5 | 63.4 | 91.5 | 77.1 | 75.4 | 84.7 | 90.6 | 88.5 | 89.8 | 91.4 | 90.1 | 91.2 | 86.4 |
| ...have pupils use a computer in class | 82.8 | 66.3 | 84.9 | 70.9 | 71.5 | 81.8 | 81.4 | 86.3 | 84.5 | 79.8 | 86.0 | 81.6 | 83.5 |

***Source:*** *LearnInd CTS 2006;* ***Base:*** *All teachers;* ***Question:*** *Q7 "How have you used computers and/or the internet for work in the last 12 months?"*

The older the teachers (indicator used here: years of teaching experience), the less use they make use of computers and the internet in schools. However, ICT usage levels by teachers in class are generally very high in schools in the United Kingdom irrespective of length of teaching experience.

A very good 59% of older teachers with more than 20 years teaching experience use ICT in class in more than a quarter of their lessons. The corresponding figure of the younger teachers with less than five years teaching experience is 75%.

Only a very low 4% of teachers do not use computers in class in the United Kingdom. When asked for the most important barrier, 31% state a lack of computers in their schools as the most important barrier. This is almost the lowest figure in Europe. With 20% it is the lowest in all European primary schools.

"Lack of equipment in school" is therefore expressed by only 1% of all British teachers (4% non-users multiplied with 31% of teachers agreeing to this item).

Most teachers (95%) are convinced of the benefits of using computers in class and only very few (11%) express the opinion that teachers lack the necessary skills to utilize computers in their teaching.

British schools, and especially primary schools, are very well equipped with ICT, with teachers in almost all schools making very intensive and frequent use of ICT in class, regardless of age. As well as fully integrating ICT in the teaching of most subjects, and using a multitude of online and offline sources and materials, British teachers possess very good ICT skills and are fully aware of the benefits ICT can bring to pupils and therefore highly motivated to make intensive use of ICT in class.

### Frequency of computers use in class the United Kingdom 2006

| Percentage of all teachers *using computers in class* who ... | Total UK | Total EU25 | Educational Level (UK) | | | | Type of locality (UK) | | | Years of teaching experience (UK) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Primary | Lower secon-dary | Upper secon-dary | Voca-tional | Densely popu-lated | Inter-mediate | Thinly popu-lated | <5 y | 5-9 y | 10-19 y | 20+ y |
| ...use computers in 5% and less of all lessons | 9.2 | 18.5 | 8.2 | 12.7 | 14.7 | 12.0 | 10.5 | 9.6 | 7.0 | 8.0 | 8.9 | 7.1 | 11.8 |
| in 6 to 10% of lessons | 12.7 | 22.5 | 12.4 | 13.8 | 15.1 | 14.3 | 10.4 | 12.3 | 16.2 | 8.8 | 8.1 | 18.2 | 14.2 |
| in 11 to 24% of lessons | 13.2 | 22.2 | 13.3 | 13.2 | 14.7 | 8.7 | 13.2 | 13.2 | 13.4 | 9.1 | 11.5 | 15.0 | 15.8 |
| in 25 to 50% of lessons | 26.5 | 20.2 | 27.1 | 25.1 | 21.7 | 18.6 | 22.4 | 32.4 | 29.5 | 24.9 | 24.1 | 26.5 | 29.4 |
| more than 50% of lessons | 38.4 | 16.5 | 39.0 | 35.2 | 33.8 | 46.5 | 43.5 | 32.4 | 33.9 | 49.3 | 47.3 | 33.3 | 28.8 |

***Source:*** *LearnInd CTS 2006;* ***Base:*** *Teachers using computers in class, "don't know" answers excluded;* ***Question:*** *Q9 "For what percentage of time have you used computers and/or the internet in class when teaching your main subject(s) in the past 12 months?"*

### Source of educational material used in class in the United Kingdom 2006

| Percentage of all teachers *using computers in class*[2] who ... | **Total UK** | **Total EU25** | **Educational Level** | | | | **Type of locality** | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | **Primary** | **Lower secondary** | **Upper secondary** | **Vocational** | **Densely populated** | **Inter-mediate** | **Thinly populated** |
| ...use material they have searched the internet for | 93.8 | 82.7 | 93.9 | 93.1 | 94.2 | 97.8 | 94.5 | 93.1 | 93.6 |
| ...use existing online material from established educational sources | 94.2 | 74.2 | 95.6 | 86.2 | 85.8 | 89.0 | 94.4 | 93.3 | 95.9 |
| ...use material that is available on the school's computer network or database | 83.8 | 63.1 | 84.5 | 79.0 | 78.1 | 86.9 | 84.4 | 85.5 | 81.3 |
| ...use electronic offline material (such as CD ROMS) | 88.0 | 83.0 | 89.7 | 79.3 | 80.0 | 82.5 | 85.6 | 90.6 | 91.2 |
| ...use other learning material when using computers in class | 0.9 | 8.8 | 0.7 | 2.1 | 0.9 | 3.3 | 1.3 | 0.0 | 0.1 |

***Source:*** *LearnInd CTS 2006;* ***Base:*** *Teachers using computers in class;* ***Question:*** *Q10 "Which of the following types of materials have you used when teaching your main subject(s) with the aid of a computer and/or the internet?"*

**Barriers to computer use in class in the United Kingdom 2006**

| Percentage of all teachers ***not*** *using computers in class* | Total UK | Total EU25 | Educational Level | | | | Type of locality | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | Primary | Lower secondary | Upper secondary | Vocational | Densely populated | Inter-mediate | Thinly populated |
| Lack of computers | 31.0 | 48.8 | *20.0** | *44.8** | *52.9** | *56.9*** | *38.4** | *27.7*** | *10.4*** |
| Lack of adequate content/material | 4.2 | 20.3 | *0.0** | *10.1** | *10.1** | *28.8*** | *3.6** | *0.0*** | *0.0*** |
| Lack of content in national language | 0.0 | 8.6 | *0.0** | *0.0** | *0.0** | *0.0*** | *0.0** | *0.0*** | *0.0*** |
| Lack of adequate skills of teachers | 10.7 | 22.5 | *8.8** | *10.2** | *16.9** | *14.5*** | *5.5** | *0.0*** | *31.9*** |
| No or unclear benefits | 5.2 | 16.2 | *8.5** | *12.4** | *0.0** | *0.0*** | *0.0** | *0.0*** | *25.7*** |
| Lack of interest of teachers | 0.0 | 8.9 | *0.0** | *0.0** | *0.0** | *0.0*** | *0.0** | *0.0*** | *0.0*** |
| Subject does not lend itself to being taught via computers | 24.3 | 24.4 | *27.8** | *29.8** | *10.1** | *28.8*** | *18.0** | *9.6*** | *52.3*** |
| Other | 36.0 | 21.3 | *43.4** | *20.0** | *29.9** | *0.0*** | *40.0** | *71.6*** | *10.5*** |

***Source:*** *LearnInd CTS 2006;* ***Base:*** *all teachers not using computers in class;* ***Question:*** *Q12: "Why do you not use computers and/or the internet when teaching in class?"* ***Notes:*** *"xx.x*": based on at least 10 and less than 50 cases; "xx.x** " based on less than 10 cases.*

## Comparison of the situation in 2001 and 2006[3]

In the United Kingdom the percentage of schools using computers for educational purposes was already at 100% in 2001.

While in 2001 there were 11 computers per one hundred pupils the figure rose to 20 in 2006, an improvement of almost 50% and – very importantly – starting from an already very high level in 2001.

Schools have moved over to broadband. 75% (EU25: 45%) of the schools in the United Kingdom are connected to the internet via broadband (including DSL connections) in 2006. The figure for 2001 was just 7% (EU15: 5%). The figures have strongly increased over the past 5 years.

Schools have also strongly increased the quality of ICT use: while in 2001 50% (EU15: 44%) of the schools in the United Kingdom had their own website, the figure is now 73% (EU25: 62%). The use of a LAN – which was used by 63 (EU15: 47%) of the British schools – is also now up to 65% (EU25: 54%).

## Attitudes on the Usefulness of ICT use in Teaching

Computers and the internet have arrived in British schools already some time ago.

The share of teachers in The United Kingdom – but also in the European Union in general – who believe that computers and the internet should not be used at all in schools is very low and below 1%.

British teachers have very positive attitudes about the different applications for ICT in teaching and achieve high figures (well above the European average) on attitudes that ICT should be used for letting pupils do exercises and practise (89%), letting pupils retrieve information in a self-directed manner (91%) and for collaborative and productive work by pupils (96%). There are only minor differences across school types.

## Access, Competence and Motivation for Using ICT and the Internet in Schools

### Access

A majority of British teachers are more or less satisfied with the technical access means at their schools: a top 87% state that their school is well equipped with computers and 84% express the opinion that their internet connection is fast enough. However, 61% wish there were better support and maintenance actions taken.

In terms of content a considerable minority states problems with respect to finding adequate learning materials (23%) and argue that existing materials are of poor quality (31%).

**Attitudes on the Usefulness of ICT use in Teaching in the United Kingdom 2006**

| Percentage of teachers saying computers/internet should be used for … | Total UK | Total EU25 | Educational Level | | | | Type of locality | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | Primary | Lower secondary | Upper secondary | Vocational | Densely populated | Inter-mediate | Thinly populated |
| Letting pupils do exercises and practise | 88.8 | 79.9 | 89.0 | 87.2 | 89.0 | 96.0 | 87.6 | 88.8 | 90.2 |
| Letting pupils retrieve information in a self-directed manner | 91.4 | 85.0 | 90.6 | 93.8 | 94.9 | 90.0 | 90.7 | 90.8 | 92.0 |
| Teaching about office tools | 74.9 | 61.3 | 76.3 | 68.5 | 66.4 | 71.2 | 73.4 | 73.7 | 77.9 |
| Collaborative and productive work by pupils | 95.7 | 80.5 | 96.6 | 90.4 | 90.7 | 97.0 | 96.1 | 95.6 | 95.1 |
| Computer/internet should not be used for any of these in teaching | 0.4 | 0.6 | 0.4 | 0.5 | 0.3 | 1.0 | 0.2 | 0.0 | 1.1 |

***Source:*** *LearnInd CTS 2006;* ***Base:*** *all teachers;* ***Question:*** *Q13: "What do you think for what computers and the internet should be used for in teaching?"*

## Competence in using ICT

ICT competence levels of British teachers are well above the European average. More than two thirds dispose of the necessary ICT skills. They feel most competent in using e-mail and using a text processor programme but are less confident with downloading and installing software and with using presentation software packages.

Primary school teachers seem to be top in terms of ICT competence since only 25% state that teachers in their school have insufficient ICT skills. The corresponding figures for the other school types are between 33% and 40%.

## Motivation to ICT use in Schools

A top 90% of British teachers see significant learning benefits for pupils using computers in class and 94% say that pupils are more motivated and attentive when computers and the internet are used in class.

### Teachers' access, competence and motivation for using ICT in class 2006

| Percentage of teachers agreeing or strongly agreeing: | Total Uk | Total EU25 | Educational Level | | | | Subject of teaching | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Primary | Lower secondary | Upper secondary | Vocational | General primary | Literature and languages | Humanities and social sciences | Science, maths, computer sciences | Physical, artistic, crafts education | Vocational education |
| **Access** | | | | | | | | | | | | |
| Our school is well equipped with computers [a] | 86.9 | 74.2 | 87.6 | 81.9 | 82.9 | 83.7 | 88.3 | 88.6 | 87.0 | 87.7 | 81.6 | *75.2** |
| The internet connection we have is sufficiently fast [b] | 84.0 | 77.2 | 84.2 | 82.8 | 81.4 | 91.6 | 83.8 | 86.1 | 87.7 | 83.7 | 85.7 | *86.5** |
| Better technical maintenance and support is required in our school [c] | 60.6 | 64.8 | 62.4 | 52.0 | 52.5 | 54.6 | 62.7 | 38.6 | 61.9 | 57.1 | 71.9 | *56.5** |
| Existing teaching materials on the Internet are of poor quality [d] | 22.8 | 29.9 | 20.8 | 32.0 | 35.7 | 32.8 | 20.5 | 28.0 | 27.1 | 22.0 | 23.8 | *26.9** |
| It is hard to find adequate learning materials for teaching [e] | 31.2 | 38.7 | 30.3 | 36.7 | 35.2 | 34.5 | 30.9 | 21.5 | 41.6 | 28.3 | 30.7 | *37.5** |
| **Motivation** | | | | | | | | | | | | |
| Pupils are more motivated and attentive when computers and the internet are used in class [f] | 93.8 | 86.3 | 94.6 | 90.6 | 88.2 | 91.6 | 94.9 | 96.1 | 88.6 | 95.8 | 88.9 | *93.6** |
| Using computers in class does not have significant learning benefits for pupils [g] | 10.3 | 20.7 | 9.8 | 14.7 | 14.0 | 12.5 | 9.4 | 10.5 | 7.4 | 11.9 | 12.5 | *13.4** |
| **Competence** | | | | | | | | | | | | |
| Teachers in our school do not have sufficient computer skills [h] | 27.0 | 42.0 | 24.8 | 39.8 | 37.8 | 33.8 | 24.3 | 30.8 | 39.8 | 31.0 | 25.9 | *33.3** |
| **Competence / computer skills (Percentage of teachers who feel very confident at…)** | | | | | | | | | | | | |
| Using text processors [i] | 76.6 | 65.0 | 75.9 | 79.8 | 79.9 | 73.6 | 76.1 | 72.2 | 70.4 | 85.2 | 75.4 | *73.0** |
| Creating electronic presentations [j] | 41.6 | 34.0 | 39.1 | 57.8 | 55.0 | 53.0 | 39.4 | 41.5 | 36.0 | 48.7 | 32.1 | *53.3** |
| Using e-mail [k] | 72.9 | 65.9 | 71.3 | 80.5 | 83.0 | 81.3 | 71.5 | 81.9 | 64.3 | 77.2 | 76.0 | *93.3** |
| Downloading and installing software [l] | 39.9 | 35.8 | 39.3 | 43.9 | 42.5 | 45.3 | 38.1 | 35.2 | 34.6 | 46.6 | 39.3 | *46.4** |

***Source:*** *LearnInd CTS 2006;* ***Base:*** *a-h All teachers; i -l Teachers using computers in class* ***Question:*** *a-h Q14, i-l Q11.* ***Notes:*** *"xx.x*": based on at least 10 and less than 50 cases.*

## ICT Readiness of Teachers – the ACM Model

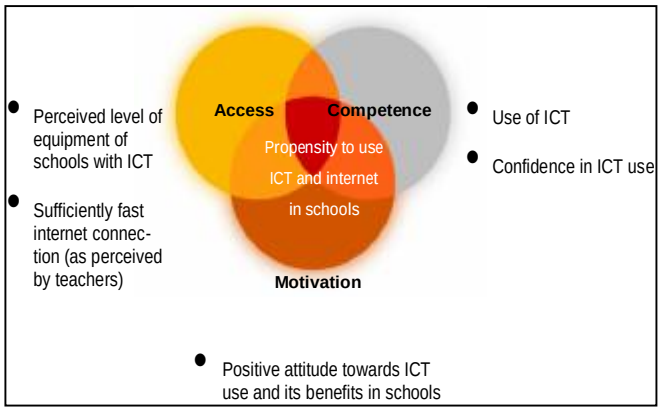
The ACM model as developed by Viherä and Nurmela (2001)[4] was applied in LearnInd to generate a typology according to the "propensity to the use of computers and internet by teachers in classroom situations at schools".

The typology in the figure below takes account of the three main categories of preconditions which need to be given for a school to make use of computers and the internet in the teaching process in classrooms, computer labs etc.

These are: access (to computers and the internet at school), competence (in using the computer software and the internet, and applying it for teaching purposes), and motivation (gauged through the attitude that using computers in classrooms results in significant learning benefits).

Any attempt to group the classroom teachers according to their propensity to becoming users of computers and the internet in their teaching processes needs to take account of these three dimensions. In the present application of the ACM model data from the Classroom Teacher Survey (CTS) was used. Therefore "access" for instance is to be understood as a perceived level of computer equipment at schools and teachers' satisfaction therewith rather than an objective measure of equipment status.

### The Access-Competence-Motivation Model




38% of European teachers dispose of sufficient access to the internet at school, the necessary competence in using ICT in class and are motivated in its use. With 60% of the teachers belonging to this group, The United Kingdom ranks at 1st which places the country at the very top quarter of European countries.

### Access, Motivation and Competence of Teachers for Using ICT in Schools in the United Kingdom 2006

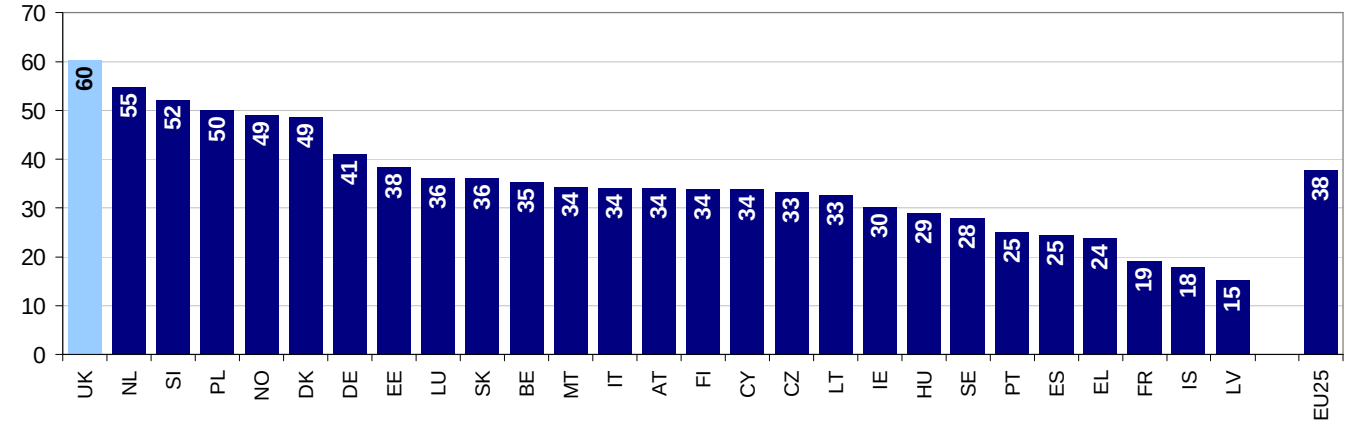
| UK | EU25 | Access | Competence | Motivation |
|---|---|---|---|---|
| 0.7 | 4.3 | ~~Access~~ | ~~Competence~~ | ~~Motivation~~ |
| 1.2 | 3.9 | **Access** | ~~Competence~~ | ~~Motivation~~ |
| 5.6 | 9.7 | ~~Access~~ | **Competence** | ~~Motivation~~ |
| 1.8 | 5.0 | ~~Access~~ | ~~Competence~~ | **Motivation** |
| 11.0 | 13.7 | **Access** | **Competence** | ~~Motivation~~ |
| 2.7 | 4.8 | **Access** | ~~Competence~~ | **Motivation** |
| 16.8 | 20.7 | ~~Access~~ | **Competence** | **Motivation** |
| 60.2 | 37.9 | **Access** | **Competence** | **Motivation** |
| 100 | 100 | | | |

*Percentage of teachers.* ***Source:*** *LeanInd CTS 2006;* ***Base:*** *All teachers;* ***Question:*** *See endnote* [5]

The as yet insufficient internet connection in many schools and a lack of motivation of teachers for using ICT are the most critical issues for a wider uptake of computers and the internet in schools in Europe. 20% of European teachers indicate insufficient computer equipment and the low speed of internet connection at their school as a key barrier. 14% show a lack of motivation, i.e., they are of the opinion that using computers in class does not result in significant learning benefits.

The situation in the United Kingdom is different. “Lack of access” and “lack of motivation and interest” reach figures well below the European average and do not constitute a problem.

### ICT Readiness of Teachers in the United Kingdom: Percentage of Teachers Fully Ready to use Computers in Class (ACM Indicator) 2006




***Source:*** *LeanInd CTS 2006;* ***Base:*** *All teachers.* ***Question:*** *See endnote 5*

# ANNEXES

## Methodology Report

### Universe / Sample population

In order to assure the comparability of school levels in all countries UIS-OECD-EUROSTAT "Mapping of national education programmes to ISCED 97 for school academic/year 2002/2003" [6] was used for composing the sample frame. Based on this, each country divided its school system into ICSED codes and made different combinations that existed in its country.

### Sampling frame and method

The sample was composed using official databases, which contained contact data of schools. In the majority of countries the sample was drawn from a database received from the Ministry of Education.

For each country a separate template of sample frames was composed by TNS Emor. These templates contained data about school types across regions as well as location type. School types were defined based on the ISCED codes provided in UIS-OECD-EUROSTAT. Location type distribution was made according to the Eurostat type of locality classification which differentiates densely populated, intermediate and thinly populated municipalities[7]. Apart from that, each country was divided into 3-7 regions depending on the size of a country.

Based on the data provided by countries, TNS Emor composed quotas for each country. Two level stratification was used – quotas for first stage, random sample for second. The quotation for region by school type and location type was endorsed. Simple random selection was conducted by the local agency or the local source of the contact base. Both private and public schools were included in the sample. It was also obligatory to include schools of other teaching languages than the official language of a country in the sample.

Simple random sampling was used inside a quota cell. This means that if the quota for primary schools in region1 was 100 and the total number of primary school in this region was 800, then a random sample selection was be made among those 800 schools. This covered also both private and public schools and schools of other teaching languages than the official language of a country.

No more than 50% of interviews could be made in one school level. At least 10% of respondents had to be from schools, which provided professional/vocational or combined programme of vocational and upper secondary level education (in case a country did not have special quota for those schools). It did not matter whether vocational education level was coded as ISCED 3 or ISCED 4.

There were no duplications in samples of head teacher and classroom teacher surveys. This was only allowed in countries with small universe sizes (e.g. Malta, Cyprus, Iceland, Estonia, Latvia etc) and in cases where the last quota cells were very difficult to achieve or there were not enough schools of a certain type. The priority was to include as many different schools as possible. In both surveys, 5 attempts were made before giving up and only if the respondent refused was this person not contacted again.

The CATI programme generated a randomly chosen letter. The interviewer asked for the person with a surname that started on the generated letter. If there was more than one teacher whose surname started with the selected letter, the person who was first alphabetically was chosen. If the correct person was not available, an appointment was made. At least 5 attempts were made before taking another teacher.

Only in Malta, due to instructions dictated by the Education Department, would the Head Teacher randomly select a teacher who would be available for an appointment during which they would be interviewed.

**Number of interviews conducted (HTS / CTS)**

| Country | | Head Teachers | Classroom teachers |
|---|---|---|---|
| **BE** | Belgium | 450 | 807 |
| **CZ** | Czech Republic | 500 | 1000 |
| **DK** | Denmark | 315 | 848 |
| **DE** | Germany | 450 | 901 |
| **EE** | Estonia | 400 | 851 |
| **EL** | Greece | 500 | 1000 |
| **ES** | Spain | 518 | 1022 |
| **FR** | France | 501 | 869 |
| **IE** | Ireland | 403 | 626 |
| **IT** | Italy | 500 | 900 |
| **CY** | Cyprus | 150 | 600 |
| **LV** | Latvia | 451 | 902 |
| **LT** | Lithuania | 457 | 908 |
| **LU** | Luxemburg | 82 | 277 |
| **HU** | Hungary | 500 | 1000 |
| **MT** | Malta | 100 | 200 |
| **NL** | Netherlands | 515 | 890 |
| **AT** | Austria | 320 | 450 |
| **PL** | Poland | 500 | 1000 |
| **PT** | Portugal | 450 | 900 |
| **SI** | Slovenia | 253 | 460 |
| **SK** | Slovakia | 502 | 1000 |
| **FI** | Finland | 318 | 601 |
| **SE** | Sweden | 200 | 450 |
| **UK** | United Kingdom | 450 | 905 |
| **IS** | Iceland | 177 | 424 |
| **NO** | Norway | 494 | 708 |
| **TOTAL** | | **10456** | **20499** |

### Fieldwork

Fieldwork was coordinated by the TNS Emor and conducted in cooperation with its local TNS offices excluding Iceland, Cyprus, Austria, Slovenia and Malta where TNS does not have offices. In these countries partners with whom TNS had previous experience were used.

Pilot interviews prior to the regular fieldwork were conducted with 20 schools in both target groups in Estonia and Greece in February 2006, in order to test the questionnaire (structure, comprehensibility of questions).

Between March and April 2006, surveys among head teachers (head teacher survey - HTS) and classroom teachers (CTS) were carried out in 27 European countries. TNS Emor was responsible for the fieldwork.

### Weighting schemes

After the fieldwork, weighting coefficients were computed using region, location type and school type.

### Statistical accuracy of the survey: confidence intervals

Statistics vary in their accuracy, depending on the kind of data and sources. A "confidence interval" is a measure that helps to assess the accuracy that can be expected from data. The confidence interval is the estimated range of values on a certain level of probability of error. Confidence intervals for estimates of a population fraction (percentages) depend on the sample size, the probability of error, and the survey result (value of the percentage) itself. Further to this, variance of the weighting factors has negative effects on confidence intervals.

The calculation of confidence intervals is based on the assumption of (quasi-) infinite population universes. In practice, however, in some countries and for some school levels the complete population of schools consists of only several hundred or even a few dozen of schools. In some cases, literally each and every school within a country-school type cell was contacted and asked to participate in the survey. This means that it is practically impossible to achieve a higher confidence interval through representative school surveys in which participation is not obligatory.

## Country Background Data

UK is one of the largest countries in Europe with an above average birth rate. 19% of the population are aged 14 and below, which is the third highest rate of all countries in Europe. The pupil/teacher ratio is top, but in an international comparison, public expenditure on education range below average.

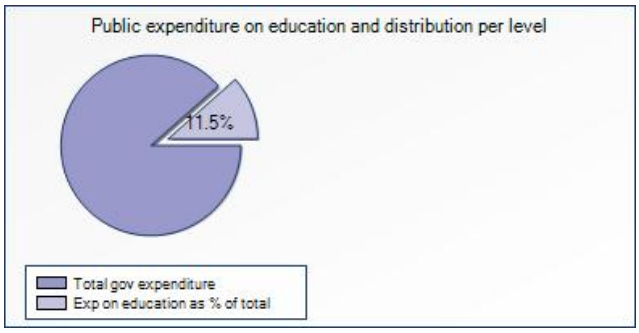
***General Population Data for United Kingdom 2002/03[8]***

| | |
|---|---|
| Total population (000) | 59,068 |
| Annual population growth rate (%)* | 0.3 |
| Population 0-14 years (%) | 19 |
| Rural population (%)* | 10 |
| Total fertility rate (births per woman) * | 1.6 |
| Infant mortality rate (0/00) * | 5 |
| Life expectancy at birth (years) * | 78 |
| GDP per capita (PPP) US$ * | 26,134 |
| GDP growth rate (%)* | 1.6 |
| * World Bank World Development Indicators | |

***Resources for Education in United Kingdom 2002/03***

| | |
|---|---|
| Pupil / teacher ratio (primary) | 17 |
| Public expenditure on education : | |
| as % of GDP | 5.3 |
| as % of total government expenditure | 11.5 |
| Distribution of public expenditure per level (%): | |
| pre-primary | … |
| primary | … |
| secondary | … |
| tertiary | … |
| unknown | … |

***Resources for Education in United Kingdom 2002/03***




## The Educational System in United Kingdom[9]

In 2001, approximately 60% of the population in the United Kingdom aged between 0 - 29 were in education. In **England**, the language of instruction is English. In **Wales**, the language of instruction is either English or Welsh, or a combination of both.

Parental preferences for the language of instruction can normally, but not always, be met, either by choosing a particular school, or by choosing a particular stream within a bilingual school. Welsh-medium pre-school education is also available, and some further and higher education courses are also taught through the medium of Welsh, although not in all subject areas. All pupils in Wales are required to follow a programme of study in Welsh, either as a first or second language, throughout the years of compulsory education.

In **Northern Ireland**, the language of instruction is English, except for in a small, but growing, number of Irish-medium schools, and Irish-medium units within English-medium schools. Irish medium pre-school education is also available.

In 2002, approximately 96% of students in primary, secondary and further education in the UK (including Scotland) were in publicly-funded institutions, with the remaining 4% in private non grant-aided institutions, such as independent schools.

(a) National level

The **responsibility for the education service** lies with the Department for Education and Skills (DfES) in England, with the Welsh Assembly Government's Department for Training and Education (DfTE) in Wales, and, in Northern Ireland, with the Department of Education (DE) and the Department for Employment and Learning (DEL). The **inspection** of schools in England is the responsibility

of a separate, non-ministerial government department, the Office for Standards in Education (Ofsted), which also has responsibilities for the inspection of pre-school education and care, and of provision for 16 - 19-year-olds. The inspection of further education institutions is currently the responsibility of a non-departmental public body, the Adult Learning Inspectorate (ALI), although proposals to merge the ALI with Ofsted have recently been published. In Wales, a single body, Estyn, inspects pre-school education, schools and further education institutions. In Northern Ireland, the Education and Training Inspectorate (ETI) is part of the Department of Education (DE); it inspects both schools and further education institutions. At higher education level, a single independent body, the Quality Assurance Agency for Higher Education (QAA), provides quality assurance services across the UK.

The **planning and funding of further education** (FE) is the responsibility of the Learning and Skills Council (LSC) in England and, in Wales, of the National Council for Education and Training for Wales, known as the National Council – ELWa (1). These are non-departmental public bodies. In England, the LSC is currently consulting on changes to the current funding system for FE. In addition, a new national planning and funding system for further education is currently in the process of being implemented in Wales. In Northern Ireland, the planning and funding of FE is the responsibility of the Department for Employment and Learning (DEL). The national level bodies with responsibility for **funding higher education** in England and Wales are the Higher Education Funding Council for England (HEFCE) and the Higher Education Funding Council for Wales (HEFCW) respectively. In Northern Ireland, this is the responsibility of the Department for Employment and Learning (DEL).

(b) Local level

The 173 local authority (LA) education departments in England and Wales and the five Education and Library Boards (ELBs) in Northern Ireland are responsible for organising publicly-funded school education within their area. LAs also have a responsibility for quality assurance in the schools that they maintain and for promoting high standards of education for pupils of school age in their area. Since the introduction of the *Every Child Matters: Change for Children (http://www.everychildmatters.gov.uk/)* programmes (see section II, *Ongoing Reforms and Topics of Debate in Education*), local authority Children's Services Authorities (CSA) are taking on responsibility for the improvement and integration of universal services for children – in early years settings, schools, the health service and social services.

(c) Institutional level

All institutions have a governing body, responsible for the general direction of the institution, which includes representatives from a range of different stakeholders. All schools have a high degree of autonomy. In England and Wales, the legal framework for primary and secondary schools divides them into community, voluntary and foundation schools. The majority of schools are community schools which are established and fully funded by local authorities (LAs). Foundation schools are also funded by LAs, but are owned by the school governing body or a charitable foundation. Voluntary schools were originally established by voluntary bodies, mainly churches, which retain some control over their management. They are now largely funded by LAs. There is a separate legal framework in Northern Ireland, where, despite the establishment of a number of integrated schools, the school system remains largely segregated on religious lines.

Further and higher education institutions are fully autonomous.

## The use of ICT in Education[10]

The new strategy document *Harnessing Technology: Transforming Learning and Children's Services* sets out comprehensively the next phase in developing the use of digital technology in education and training.

Some of the future priorities set up in this document are an integrated online personal support for children and other learners, the provision of digital resources to support personalised learning and ICT training for practitioners. Additionally, a leadership package to support organisational capability in ICT and a common digital infrastructure to support transformation and reform will have to be implemented.

Up until now, most schools and every university and college have broadband access. Pupils and students use the internet for research, and a growing number of schools keep parents informed online. Adults use online resources to improve their skills. Teachers increasingly use ICT to improve their own skills and knowledge and to bring their lessons to life. Those responsible for delivering services to children, young people and other learners are looking for better methods of delivery, supported by technology, and technology is making many administrative and assessment tasks easier.

## The Study

There is a lack of information on the actual use of ICT for learning in schools and for supporting political action in potential future programmes. It is necessary to clarify matters such as the educational vision of heads of schools, the current impact of ICTs on teachers' practice, support and training and on other factors for success in e-learning.

The objective of the study is to obtain estimates for the eEurope 2005 indicator on e-learning "number of pupils per computer with Internet connection (broadband/non-broadband)" and relate it to other possible indicators of educational use of ICT in compulsory education (e-learning in schools). The study looks at how Information and Communication Technologies (ICT) are used in schools.

The study is a continuation of the earlier benchmarking exercise for eEurope 2002.

It involved two surveys. Firstly of head teachers to obtain information on the schools and then of teachers to focus on their use of ICTs in the teaching process

This exercise is part of the Information Society monitoring and benchmarking process for which the Commission in cooperation with the Council defined benchmarking indicators.

## Country Briefs

This document has been prepared by **empirica** based on own desk research and the above mentioned primary data sources: Head Teacher Survey (HTS) 2006 and Classroom Teacher Survey (CTS) 2006 in the EU25 member states, Iceland and Norway.

Altogether 27 LearnInd Country Briefs are available in a common format, one for each member of the enlarged European Union, Norway and Iceland.

A final report has also been developed. It includes approximately 100 exhibits, more than 250 data tables and a report about the key results.

You can access and download these documents in PDF format (for free) from http://ec.europa.eu/information_society/eeurope/i2010/benchmarking/index_en.htm.

## More information

Check our results and achievements on: http://ec.europa.eu/information_society/eeurope/i2010/benchmarking/index_en.htm. If you wish to be provided with more details, or to receive news and updates, please contact us at: **learnind@empirica.com** or get in touch with us.

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1 Note that "in class" means during lessons while teaching and does not denote a particular location such as a classroom.

2 Base (100%) = all teachers who have used a computer in class in the last 12 months.

3 This section includes some comparisons of the Eurobarometer Flash 94/1001 and 95/102 results from 2001 with those from the LearnInd surveys from 2006. Please bear in mind that the figures are not directly comparable due to the use of slightly different approaches and methodologies.

4 Viherä, M-L, Nurmela, J (2001) "Communication Capability Is an Intrinsic Determinant for Information Age", in Futures, Volume 33, Issue 3-4:245-265.

5 Synthetic indicators: Access: Q14 (2) "Our school is well equipped with computers" and Q14 (3) "The internet connection we have is sufficiently fast ".

Competence: Q11 How confident do you feel... a) using a text processor, b) creating a presentation c) using e-mail, d) downloading and installing software. Threshold: Average of 2.5 or more on a 1-4 confidence scale

Motivation: Q14 (8); disagree with "Using computers in class does not result in significant learning benefits".

For full question wordings refer to questionnaire.

6 http://forum.europa.eu.int/Public/irc/dsis/edtcs/library?l=/public/unesco_collection/programmes_isced97&vm=detailed&sb=Title

7 Densely populated area refers to a set of closely related local units, each one of which having a density greater than 500 inhabitants per km2, and the total population of which being of at least 50 000 inhabitants; Intermediate area refers to a set of closely related local units that do not pertain to a densely populated area, each one of which having density greater than 100 inhabitants per km2, and where the total population is at least of 50 000 inhabitants or it refers to a set that is adjacent to a highly populated area. Thinly populated area (rural): refers to a set of closely related local units that are not part of a densely populated area, or of an intermediate area. (A set of local areas totalling less than 100 km², not reaching the required density, but entirely enclosed within a densely-populated or intermediate area, is to be considered to form part of that area. If it is enclosed within a densely-populated area and an intermediate area it is considered to form part of the intermediate area).

8 Source: http://www.uis.unesco.org/profiles/selectCountry_en.aspx (visited 28 March 2006)

9 Source: http://www.eurydice.org/Documents/struct2/frameset_EN.html (visited: 28 March 2006)

10 Source: http://europa.eu.int/comm/education/policies/2010/nationalreport_en.html (visited: 9 May 2006)